

PREHISTORIC ARCHAEOLOGICAL SITES ON THE THREE KINGS ISLANDS, NORTHERN NEW ZEALAND

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Abstract. Archaeological features present on the four largest islands indicate that Maoris permanently occupied the Three Kings Group for one or more periods in prehistoric time. Common elongate, hillside terraces, stonework (heaps, rows, retaining walls), and shallow boundary ditches, together with early European reports (pre 1800) show that extensive areas were cleared of forest and cultivated on Great, North East and probably South West Islands. The lack of pits may indicate that the climate was warm enough for crop storage above ground or that kumara could be grown year round.

Clusters of smaller terraces, often with stonework and sparse midden, probably represent the sites of shelters adjacent to the gardens. A concentration of these features in Castaway Valley and on the northern side of South East Bay is interpreted as the main undefended dwelling area. Several small terraces on remote West Island may be the sites of temporary shelters used by short-term mutton-birding parties. No pa are present on these islands. Their isolation may have been considered sufficient defence.

Prehistoric clearance of most of the forest had an enormous impact on the islands' biota and probably resulted in the extinction of a number of endemic plants and small animals.

Three Kings Islands are situated 40 km north-west of the northern tip of New Zealand. They consist of one large island (Great Island) of approximately 300 ha, three smaller islands (North East, South West and West) each of 20-80 ha, and numerous sparsely vegetated or bare rocks (Fig. 1). All are surrounded by cliffs that drop straight down into deep water and therefore landing points and routes up to the flatter, vegetated tops are few. The large ocean swells and frequently rough sea conditions in the area often make these landings impractical, except in the lee of Great I.

The extent and purpose for which these islands were used by the prehistoric Maori is of considerable interest because of their isolation, their location at the extreme northernmost tip of New Zealand, and the impact man may have had on their endemic flora and fauna.

Historical records

Little is recorded of the traditional history of prehistoric use of the Three Kings Is. The last Maori (Tom Bowline) known to have lived on the islands told the Maori Land

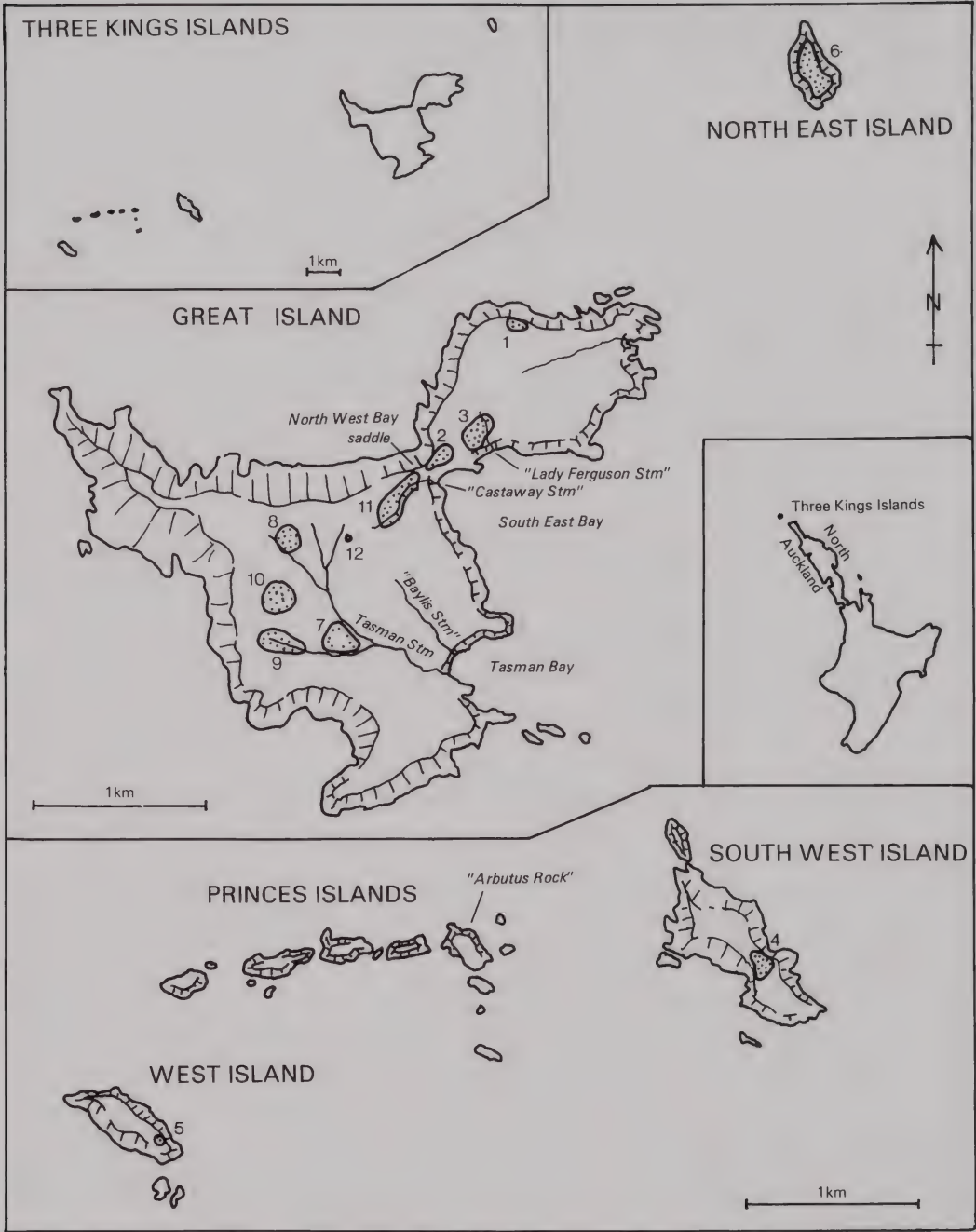


Fig.1. Map showing distribution of recorded archaeological features (dotted and numbered) on the Three Kings Is. Inset location map.

Court that they were once inhabited by about 100 people led by Toumaramara. These people were reportedly attacked and massacred by a party of Aupouri led by Taiakiaki in the late eighteenth century (Cheeseman 1888).

Recorded European observations predate this event by at least a century. Abel Tasman anchored off the islands in January 1643 and his men made several unsuccessful attempts to land and fill their casks with water from the small waterfall in Tasman Bay on Great I. In his journal, Tasman (Heeres 1898), wrote . . . “in rowing round the island our men nowhere saw any dwellings or cultivated land, except just by the fresh water [Tasman Valley] . . . where higher up on both sides of the running water, they saw everywhere square beds looking green and pleasant.” The sailors saw 30 to 35 Maoris on shore, some of whom threw stones at them as they rowed in close. In Tasman Bay they saw two canoes hauled up on the rocks, one seaworthy, the other broken (Heeres 1898).

The next recorded European visit was that of Marion du Fresne in April 1772 (Roth 1891). He saw people on Great I which he said . . . “appeared to be most extraordinary, in view of the apparent barrenness of the country.” Twenty years later another passing mariner, d’Entrecasteaux, wrote: “. . . a large column of smoke arising from the easternmost islet informed us that there were savages on it” (La Pérouse 1799). Buddle (1948) realised that this is the only known reference to Maoris on North East I.

Between 1800 and 1830, parties of Aupouri made occasional visits to the Three Kings but did not reside there permanently. In the 1830’s Tom Bowline (who had married one of Toumaramara’s grand-daughters) and his family of 12 children lived on Great I and established large gardens. These last Maori occupants left the Three Kings about 1840 (Cheeseman 1888). Since that time no one has lived on the islands, and only occasionally have visiting seamen and more recently scientists and lighthouse personnel landed. Even then, almost all landings have been on Great I.

Previous archaeological observations

The most significant factor bearing on the present and earlier observations of the archaeological features of Great I was the introduction of goats in the first part of the nineteenth century (Baylis 1948). By 1900 they had expanded to 300–400 animals. Their browsing had removed almost all the undergrowth and archaeological features were readily identifiable. The goats were shot out in 1946 and regeneration over the following years rapidly obscured most of the features. Today much of the surface archaeology is still hidden, and in many places the thick scrub makes movement and site location difficult.

Fraser (1929), who stayed for three days on Great I with a party led by Lady Fergusson, was the first to record, in general terms, the wealth of archaeological remains.

Archey (1948) described several pieces of carved totara and part of a coffin box that were recovered from two burial caves on Great I (LI/12) in 1946 by the goat extermination party. Archey himself visited Great I in 1951 and 1953 (unpublished notebook held in Auckland Museum), making notes on some of the surface features and excavating a terrace beside the Castaway depot and the floor of a rock shelter near Tasman Stream mouth. Bottle glass was found in the terrace excavation and charcoal was the only suggestion of human activity found in the rock shelter. A small party of archaeologists led by Ian Lawlor spent three days on Great I in 1979 and made detailed plans of several stonework features in Castaway and Tasman Valleys. A landing was also made on South West I and possible stonework features noted near the top at the northern end (Ian Lawlor pers. comm.).

The only other record of archaeological features on the smaller islands is that of Buddle (1948) who landed on North East I with Magnus Johnson in 1947 and 1948 and found extensive stonework features on the gently sloping top.

Present observations

The archaeological observations recorded here were made during a 5 day visit in December 1982 (Great and South West Is) and an 8 day visit in November — December 1983 (Great, North East, South West, West and Princes Is). Both trips were organised by the Offshore Islands Research Group. Site numbers given in this paper are those of the New Zealand Archaeological Association's site recording scheme and are prefixed by NZMS 260 map number LI.

ARCHAEOLOGICAL FEATURES

North East Island

North East I is completely surrounded by 70-90 m high, near vertical cliffs that drop straight into deep water. There are two landing points on the north tip and on the east side, where a relatively easy rock climb leads up to the vegetated top. These landings, especially the eastern one, are difficult or impossible in all but relatively calm conditions.



Fig.2. North East I from the east.

Stonework and terraces (L1/6) are spread over the entire two ha of gentle, east-sloping land on top (Fig.2). The surface stones on the almost flat northern portion have been gathered into several widely-spaced heaps and rows. The sloping central and southern portions have been modified by a series of at least 20 major terraces (each *c.* 20 x 5 m) and numerous smaller ones. In rocky areas these terraces have stone retaining walls and in several places there are also stone heaps (up to 2 m high and 4 m diameter) where the surface stones have been piled up on top of an original large boulder (Fig.3).

Great Island

Great I consists of a large southern area joined by a narrow, 80 m-high saddle to a smaller, nearly flat-topped, north-eastern part. The main southern portion is mostly rolling country (Fig.4) drained primarily by Tasman Stream, which provides year round fresh water. Two smaller seasonal streams (Castaway and Baylis Streams) drain its somewhat steeper, eastern slopes.

The northern, western and extreme southern sides of Great I are bordered by 100-250 m high near-vertical cliffs. On these sides a landing from the sea and route up the cliff, is only possible at two sloping rock shelves on the west coast and at a boulder and cobble beach in North West Bay, below the saddle. This is the only beach on the Three Kings but easy landings are still only possible in a low swell. The cliffs around the eastern side of the island are much lower and access from the sea is considerably easier (Figs.4,5) especially in Tasman and South East Bays. In most conditions a landing on Great I is possible, either in North West or South East Bays depending on the direction of the seas.



Fig.3. A 2 m high heap of stones beneath puka forest on the top of North East I.

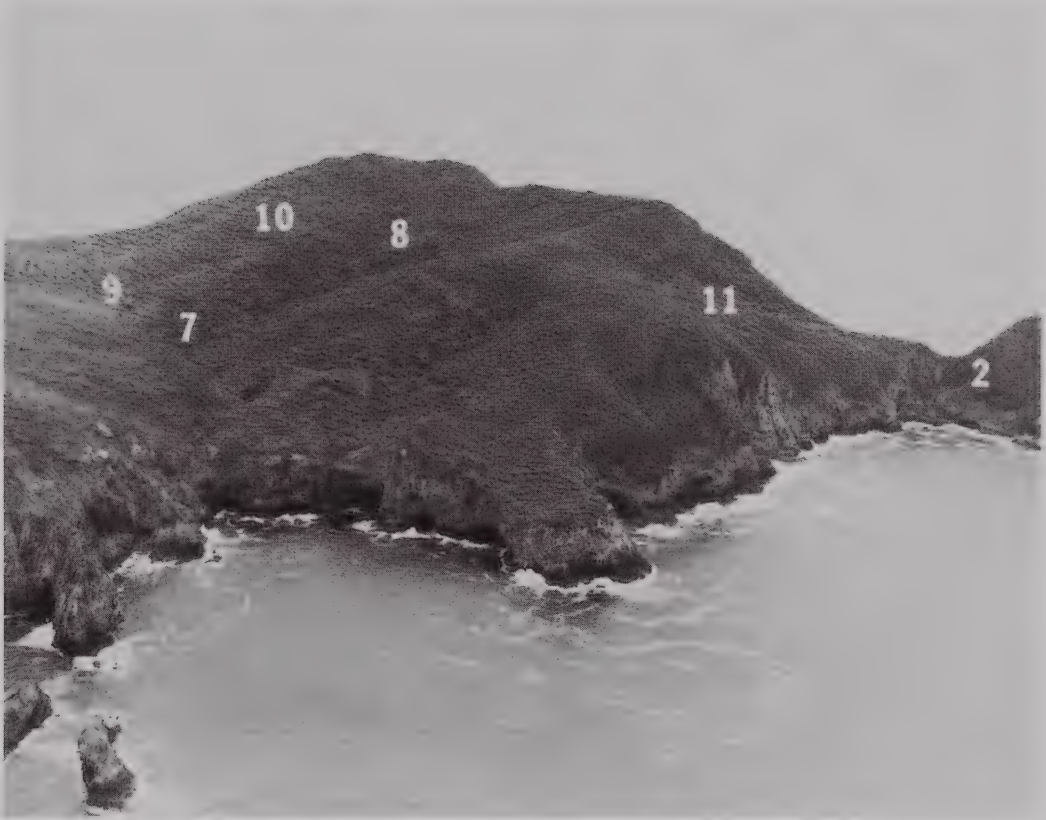


Fig.4. Oblique aerial view of main part of Great I with Tasman Bay (left) and South East Bay (right) in the foreground, Tasman Valley (left) and Castaway Valley (right in centre). Location of recorded sites is indicated.

Photo: Lloyd Homer, N.Z.G.S.

Tasman Valley. The largest areas of prehistoric archaeological features are in the headwaters and middle reaches of Tasman Valley. Today their full extent and density is hard to assess because of the thick ground cover and in places dense vegetation. Four major areas of flat or gently sloping land containing evidence of prehistoric use (L1/7-10) have been identified (Figs. 1,4). Earlier reports from when goats were present (Fraser 1929), indicate that archaeological features are more widespread than this. The most common features are widely spaced heaps of stones and where the valley sides are steeper, elongate terraces. Fraser (1929) estimated from his observations of these features that the area of prehistoric cultivation in Tasman Valley was about 30 ha.

Two, broad, nearly flat valley floor sites (L1/7,9) are free of rocks but each has four, straight, parallel, shallow trenches (c. 0.3 wide, 0.1-0.3 m deep) set 10-20 m apart, that extend downslope across them for 60-120 m. On the steeper sides of these flats and in narrower portions of the stream valley there are a number of scattered, smaller terraces (c. 4-8 x 2-4 m). These areas are naturally more rocky and stone retaining walls are often present.



Fig.5. View across South East Bay (right) and the saddle to the north-east portion of Great I, with North East I beyond. Sites above South East Bay and in Lady Fergusson Valley are indicated.

Castaway Valley. The greatest concentration of stonework and terracing on Great I is on the floor and lower, east-facing slopes of Castaway Valley (L1/11, Fig.4). The hillside is covered by a series of 40-50, well-spaced terraces (each 5-20 x 2-5 m) extending up the valley between 100 and 180 m above sea level. Stone retaining walls (0.5 - 1.5 m high) are common. Stone heaps are uncommon, although one large heap above the Castaway depot is 5 m across and 2 m high. Near the upper limits of this area, the valley floor widens and two, parallel, 20 m long, stone rows (2 m wide, 1 m high) ascend the gentle slope.

Towards the middle of the area, a prominent terrace (25 x 25 m) with a stone retaining wall (Fig.6) has five identifiable wharf sites (3-5 m square) arranged in a row along it. Three of these sites are outlined by one layer-high, stone rows and shallow drains that partly encircle each.

North east Great Island. The moderately steep, south-facing slopes above the landings in South East Bay have a number of small terraces (L1/2,3) especially on the gentler sloping spurs and adjacent to the saddle. Around many of these terraces lies scattered shell midden, from which Lady Fergusson's party found obsidian and an adze (Fraser 1929). An obsidian flake collected here by P.R. Moore in 1983 is green in transmitted light and therefore derived from either Kaeo or Mayor Island sources,

For cultural reasons, this image has been removed.
Please contact Auckland Museum for more information.

Fig.6. Part of a prominent terrace and stone retaining wall, Castaway Valley.

probably the former (P.R. Moore pers. comm.). Short, stone-retained terraces occur adjacent to several, semi-permanent pools of fresh water in the lower part of the small, Lady Fergusson Valley. Higher up, where the valley broadens out, two terraces (20 x 50 m) with 1.5 m high stone retaining walls, span its width.

The only other site (L1 / 1) located on the north east part of Great I consists of four, elongate terraces (each *c.* 100 x 8 m) that extend across the top of a gently sloping, basin-like valley atop the northern cliff.

Other sites. Several overhanging rockledges provide shelter on Great I. Although they were undoubtedly used by the prehistoric Maori, no direct evidence of this has been found despite Archey's 1953 excavation of one.

Two burial caves (L1 / 12) have been recorded on Great I (Archey 1948). These are low narrow, man-made caverns that extend 3 m beneath a large hillside boulder. In addition to human remains they contained a number of totara carvings, now in Auckland Museum.

South West Island

This is the second largest island in the group and like the others is surrounded by 80-160 m high cliffs. Landing is often possible in an enclosed gut at the northern end

from where access to the top of the island involves a 200 m scramble up a very steep slope. In the calmest weather landing can be achieved at the south east end (with an easy 20 m clamber on to vegetated slopes).

The only flat or gently sloping area on the island is on the main ridge crest, especially towards the southern end where it broadens out into a 2-3 ha plateau. The only archaeological feature identified on the island was a low stone retaining wall (L1/4) on the north-east edge of this plateau. The surface of this 120 m high flat is free of rocks and the rounded pebbles in the soil may be human additives or relicts from higher sea levels.

Princes Islands

The Princes Is are a chain of rocky, sparsely vegetated islets between South West and West Is. On most of them landings are often possible on the north side. The six largest of these were landed on by members of our 1983 party, but no archaeological evidence was seen. Rounded pebbles on steeply-sloping, Arbutus Rock (A.E. Wright pers. comm.), are thought unlikely to be human additives to improve the soil and are more probably relict terrace deposits or seal gastroliths.

West Island

West I is completely surrounded by 40-130 m high cliffs that drop away straight into deep water (Fig.7). Landings can be made at a number of places around the bottom of the cliff but access up them to the vegetated area is limited to the southern end and a vegetated gut on the west side. Strong tidal currents, prevalent large swells and stormy weather make landing on this island the most difficult in the group. The island is entirely cliffed along the north and east sides and slopes steeply away from the narrow cliff-top crest to the south and west.

Archaeological features were only seen on a gently sloping, slightly broader area of the crestal ridge above the southern landing (Fig.7). Here there are five, man-made terraces (each *c.* 8-15 x 3-5 m) several with 0.3 m high, stone retaining walls, and scattered shell midden, charred hangi stones and charcoal (L1/5).

INTERPRETATION OF THE ARCHAEOLOGY (Fig.8).

Canoe landings

The presence of archaeological features on the four largest islands shows that the prehistoric Maori made considerable use of the group, despite its isolation and the difficulties of landing. Probably the greatest obstacle to overcome was landing from a wooden canoe and hauling it ashore on the steep, rocky coast. This would usually be possible on the lee side of Great I where there are sloping rock shelves in Tasman Bay, South East Bay and at two places on the west coast or on the beach in North West Bay. Hauling a canoe up onto the rocks at the north ends of North East and South West Is



Fig.7. View from the south-west of West I and two of the Princes Is beyond. One site is indicated.

Photo: Lloyd Homer, N.Z.G.S.

would only be possible in calm conditions and very rarely possible on the east side of West I. If high seas came up however, it would be almost impossible on these smaller islands to haul canoes up the cliffs above the waves. Canoes may therefore have been based on Great I and used to ferry people to the smaller islands when conditions allowed.

Freshwater

Freshwater would have been a limiting factor in the use made of the smaller islands. On Great I, year-round water is available in Tasman Stream and for much of the year in Baylis Stream, Castaway and Lady Fergusson Valleys and the far eastern stream. Seepages at the south east end of South West Island were probably sufficient except in the driest periods but only minor, very seasonal seepages are present on North East and West Islands. Guano contamination makes these seepages unusable at the present time and may have also in the past.

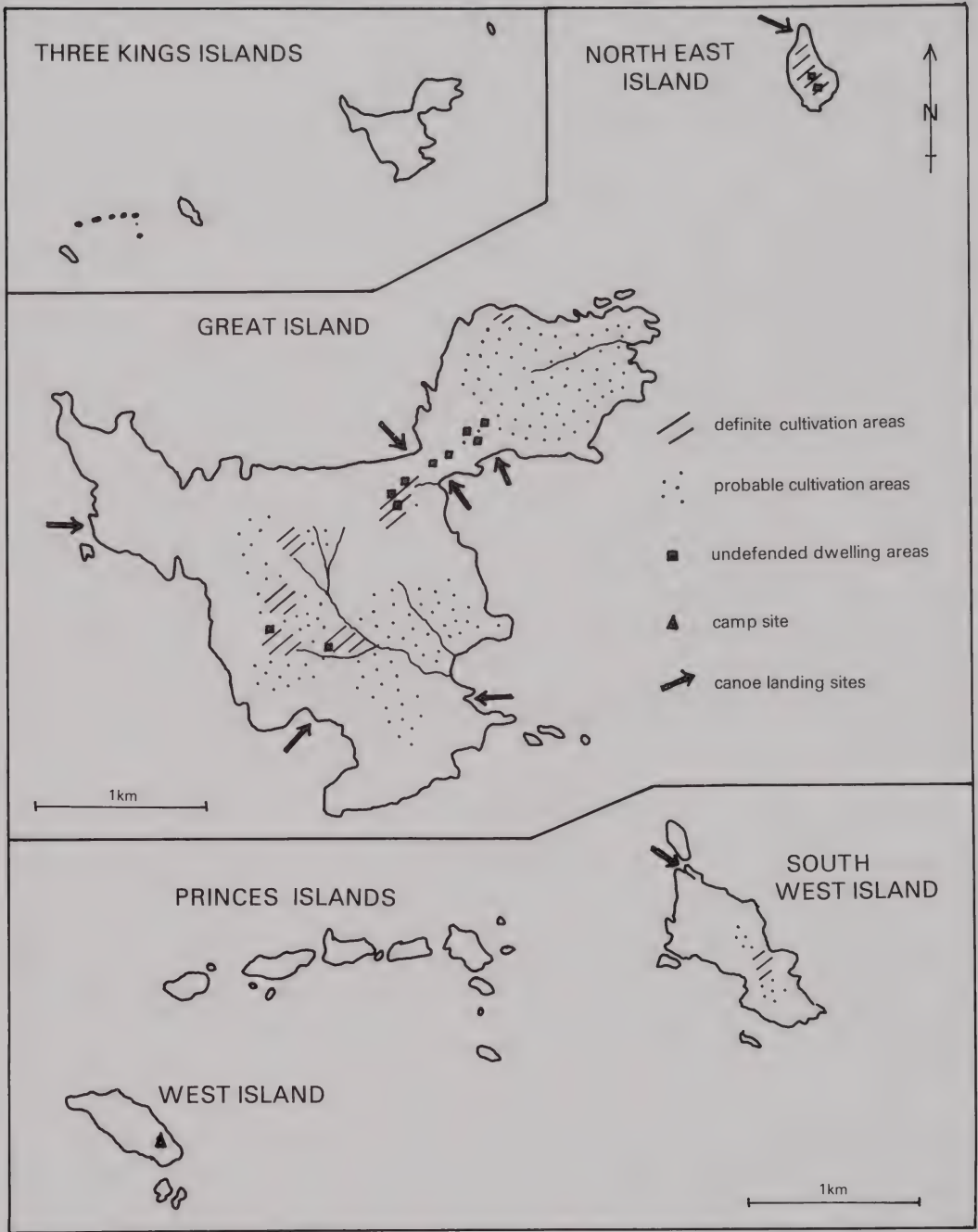


Fig.8. Map showing areas of interpreted prehistoric use on the Three Kings Is.

Cultivations

The dominant archaeological features on the Three Kings are stonework (heaps, rows and retaining walls) and elongate hillside terraces.

These are classical indications of gardening (Leach 1984). Stonework features generally occur on or near the base of steeper slopes where the ground was naturally more rocky. Stones, cleared from the surface to facilitate cultivation, were piled in heaps, over which gourds may have been grown, or used as retaining walls, to help reduce erosion of the exposed soil (Leach 1984). Stones piled into elongate rows aligned parallel to the slope (e.g. L1/11) possibly served as boundary markers between two adjacent plots. The series of parallel, shallow ditches that ascend the gentle slopes of the broad, valley-floor sites in Tasman Valley (L1/7,9) were probably also boundary markers between separate, strip-shaped, family plots (Leach 1984). In 1643, Tasman recorded (Heeres 1898) seeing “square” gardens in Tasman Valley.

The main crop cultivated by the prehistoric Maori on the Three Kings was probably kumara, which is hardy and well-suited to the fairly dry summer conditions of these hillside gardens. The group’s northerly location, lack of frosts and relatively warm climate may have provided the long growing season needed for the cultivation of yam and taro, which were also brought to New Zealand with the early Polynesian immigrants. Taro was probably only grown in the wetter parts of the floors of Tasman, Baylis and Castaway Valleys, as it requires plenty of moisture. Gourd too is fairly hardy and was probably grown here to provide food in early summer (young fruits) and containers (mature fruit).

Considering the extent of archaeological evidence of cultivation it is most unusual not to find any pits for the subterranean storage of crops on these islands. On mainland New Zealand, including Northland, kumara and yam were stored over winter in subterranean storage structures to keep the temperature above 10° C and thereby prevent tissue damage (Leach 1984). Perhaps the Three Kings’ climate was not sufficiently cool in winter to require subterranean storage and the open-sided storehouse or platform, typically used in tropical Polynesia may have sufficed. Alternatively it may have been warm enough to grow kumara all year round and not require its storage, although if yam were grown the tubers would have needed lifting in the winter.

Archaeological evidence for gardening activities on the Three Kings has been found on less than half the available flat or gently sloping land. Where no features are present, the land is usually free of stones and not steep enough to require terracing. Thus the absence of positive evidence of its use does not rule out the great likelihood that it was indeed cleared and cultivated. Often the prehistoric Maori strategy was to clear an area of forest, cultivate it for a few years until its fertility dropped, then move on to newly cleared land (Leach 1984). Thus, while most of the flat and gently sloping land on the islands was probably cultivated, only a portion of this would have been in use at any one time. One practice common in some parts of New Zealand was to add beach gravel, sand and charcoal to the soil to improve it for cultivation. As there are no sand or pebble beaches on the Three Kings, it seems unlikely that the rounded pebbles

that occur in the soil on some islands were added by the prehistoric Maori. Relict terrace deposits or seal gastroliths are a more probable explanation.

The distribution of potential cultivatable land together with the archaeological evidence shows that most gardening took place on Great I, especially in Tasman Valley, Castaway Valley and on the north east portion. Fraser (1929) estimated from his observations that at least 80 ha had been cultivated on Great I but this may be an underestimate. Archaeological evidence also suggests that the top of North East I and the plateau on South West I were also cultivated.

Dwellings

Within or on the edge of some of these garden areas there are clusters of several, smaller terraces, often with stone retaining walls. Excavations on similar features in Northland and Auckland (Leach 1984) suggest that these may be the sites of lean-to shelters or sleeping huts, adjacent to the gardens.

On Great I the concentration of smaller terraces, elaborate stonework and midden deposits in Castaway Valley and around the slopes about South East Bay to Lady Fergusson Valley (L1/2,3,11) suggests that this was the favoured site for dwellings, close to the good landings on either side of the saddle. As mentioned earlier, five hut sites can be positively identified on one terrace in Castaway Valley. From the finds of early European items in middens adjacent to the old castaway depot (Archey unpublished notebook, Ian Lawlor pers. comm.), it would seem that this is also the dwelling site of Tom Bowline and his family in the 1830s.

Hut sites are undoubtedly also present on North East I but are not easily distinguished from cultivation terraces.

The small cluster of terraces on West I is not located near any cultivations so may have been the site of temporary huts or lean-to shelters used by parties visiting the island, perhaps in the mutton-birding season. It is inconceivable that anyone lived permanently or even for any extended period on this small, exposed island.

Unlike most mainland areas or inshore islands, there appears to be no defended village (pa) on the Three Kings. There are no defensive earthworks and on Great I none of the naturally more defensible locations, such as hills and cliff tops, have been utilised. The closest approximation to a pa is North East I, which by its nature (Fig.2) would be difficult to assault. There is no suggestion on the island itself however, that this was its function. It would appear that the Maoris who lived on the Three Kings did not feel threatened enough to build a pa and considered the group's isolation and natural defences sufficient protection.

Food

Fish abound in the waters around the Three Kings today and fishing may have been the major source of food for the island inhabitants. This would be complemented

by cultivated crops and in season the eggs and young of seabirds (red-billed gulls, gannets, petrels and shearwaters), that nest on the islands in thousands today. Unlike some mainland areas, shellfish would have been a very minor part of the diet as there are no beaches for sand-dwelling staples such as huanga (*Austrovenus stutchburyi*), pipi (*Paphies australis*) or tuatua (*Paphies subtriangulata*). The very small amount of shell midden found attests to the occasional harvesting of a few limpets (*Cellana denticulata*) and white rock shells (*Thais orbita*) from the intertidal rocks.

Prehistoric population

The archaeology indicates that a population of Maoris lived permanently on the Three Kings for one or more periods in prehistoric times (pre 1800). Early European records and Maori traditional history suggests that this may have been for much of the seventeenth and eighteenth centuries. Without detailed excavations to provide dateable material it is impossible to determine when the prehistoric Maori first began using these islands, either as seasonal visitors or inhabitants. The actual number of people that lived permanently on these islands would have been limited by their ability to catch and grow sufficient food. It seems unlikely that the population ever greatly exceeded 100 persons and quite probably was usually considerably fewer.

Impact on the biota

In the process of preparing the land for cultivation, almost all the original coastal forest on Great, North East and South West Is would have been cleared by the pre-historic Maoris. In his journal, Tasman (Heeres 1898) wrote that in 1643 "...our people saw no trees..." and in 1772 Marion du Fresne described the islands as barren (Roth 1891). When Cheeseman (1891) visited Great I in 1889 he found it had regenerated to a mixture of short kanuka (*Kunzia ericoides*), bracken (*Pteridium aquilinum*), flax (*Phormium tenax*) and grass with only remnant forest trees on inaccessible cliffs and a few pohutukawas (*Metrosideros excelsa*) near the mouth of Tasman Stream. It is clear that the present vegetation on West and Princes Is is also regenerating and may have been largely cleared or burned in prehistoric times. Today the Three Kings Is are jealously guarded by naturalists because of the many endemic plants (at least 10 species) and small animals (landsnails, insects, spiders). Most of these are now recovering well from the enormous impact of prehistoric forest clearing, European fires and the browsing of goats (Great I only). This forest devastation and habitat destruction had resulted in many of the endemic plants and animals being reduced to very small populations. Indeed, two plant species are still only represented in the wild by a single specimen each (Wright 1983). It is logical to conclude therefore that an unknown number of additional endemic plants and animals became extinct as a result of man's activities on the Three Kings Islands.

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